AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1. (currently amended) An IR camera comprising:

a. an IR Focal Plane Array comprising a number of detector elements as sensor means;

b. an optical system focusing an object onto said Focal Plane Array;

c. a signal processing system connected to said Focal Plane Array;

d. a modular ~~building~~ construction comprising:

d1. a camera housing provided with said Focal Plane Array and said signal processing system;

d2. an absorbent~~/~~ and emitting shielding device connected to said camera housing; and

d3. an optical focusing system being removably mounted to said shielding device,

wherein said optical focusing system comprises:

• a storage element containing calibration information about at least one component of the optical focusing system;

• downloading means adapted to download a signal based on the stored calibration information and to transfer the calibration information to said processing device; and

• adjustment means adapted to adjust said infrared camera making use of said calibration information.

2. (original) An IR camera according to claim 1, further comprising: program means in said processing system to adapt the signals from said detector elements in said Focal Plane Array to features in surroundings of said Focal Plane Array: information means to feed information about amended features in said surroundings to said program means in said signal processing system.

3. (currently amended) An IR camera according to claim 1, comprising

a Focal Plane Array holding device providing a thermal coupling directly from said Focal Plane Array to said absorbent and emitting shielding;

pressing means pressing said holding device against said shielding.

4. (currently amended) An IR camera according to claim 1, comprising:

[[□]] a cavity providing said absorbent and emitting shielding;

[[□]] a first aperture at one end wall of said cavity turned to said Focal Plane Array;

[[□]] a second aperture at another end wall of said cavity for the beam path from said object to said Focal Plane Array;

[[□]] said cavity having a ratio of depth to width such that all stray light outside the optical path to said Focal Plane Array has to be reflected at least three times inside said cavity before it can go through said first aperture to reach said Focal Plane Array.

5. (currently amended) An IR camera according to claim 4, wherein

[[□]] said cavity comprises an approximately cylindrical internal wall;

[[□]] the dimension of said cavity having a relation between the diameter in relation to depth of said cavity being greater than 5 and having a radius being at least 3 times the width of any of said apertures.

6. (cancelled).

7. (original) An IR camera according to claim 4,

wherein said shielding comprises said cylindrical internal wall and said end wall comprising said first aperture as an integral piece adapted to be cast.

8. (original) An IR camera according to claim 4, comprising a coating with a high absorption coefficient on a cylindrical inside wall of said cavity.

9. (currently amended) An IR camera according to claim 5, comprising a ~~simple~~ wedge geometry of an inside cylindrical wall to increase absorption inside said cavity.

10. (original) An IR camera according to claim 1, comprising:

a normally open shutter between said optical focusing system and said Focal Plane Array;

activating means for providing a shutter close signal;

shutter means for closing the beam path from said object to said focal plane array after receiving said shutter close signal; and

indicating means indicating that at least one detector element in said Focal Plane Array has a steady state signal after that said shutter close signal has been provided.

11. (original) An IR camera according to claim 10, wherein said indicating means is adapted to indicating a predetermined histogram design representing said steady state signal from said at least one detector element.

12. (cancelled).

13. (currently amended) An IR camera according to claim ~~12~~ 1, comprising:

storing means storing said computed information based on said downloaded signal having relation to said optics;

restoring means restoring said stored information when said component is inserted again.

14. (cancelled).

15. (original) An IR camera according to claim 14, comprising:

storing means storing said computed information based on said downloaded signal having relation to said optics;

restoring means restoring said stored information when said component is inserted again.

16. (currently amended) An IR camera according to claim ~~12~~ 1, wherein

[[•]] said optical focusing system is an exchangeable kind of system provided with a code,

[[•]] code reading means is provided for reading said code and adjusting calibration of said IR camera by making use of said code.

17. (currently amended) An IR camera according to claim ~~12~~ 1, wherein said calibration information ~~in said informative means regarding said optical focusing system is such that it can be transformed into start information for deriving~~ relates to at least one of the following features:

[[•]] non-uniformity corrections;

[[•]] transmission parameters;

[[•]] vinjetting parameters;

[[•]] compensation matrixes;

[[•]] special characteristics;

filter serial number;

filter part number;

[[•]] lens~~/filter~~ part number; and

[[•]] lens~~/filter~~ serial number

~~• a combination of at least two of the features above~~.

18. (currently amended) An IR camera according to claim ~~12~~ 1, comprising:

storing means storing said computed information based on said downloaded signal having relation to said optics;

restoring means restoring said stored information when said component is inserted again.

19. (currently amended) An IR camera according to claim ~~12~~ 1, comprising temperature sensor means providing calibration parameters for compensating optical features, such as focus, transmission, distance calculations.

20. (currently amended) An absorbent shielding provided in front of detector sensor means in an IR camera, comprising:

[[□]] a cavity;

[[□]] a first aperture at a first end wall of said cavity turned to said Focal Plane Array;

[[□]] a second aperture at a second end wall of said cavity remote to said first end wall for the beam path from said object to said Focal Plane Array;

[[□]] said cavity having a ratio of depth to width such that all stray light outside the optical path to said Focal Plane Array has to be reflected at least three times inside said cavity before it can go through said first aperture to reach said Focal

Plane Array.

21. (currently amended) An absorbent shielding according to claim 20, wherein

[[□]] said cavity has an approximately cylindrical internal wall;

[[□]] the dimension of said cavity having a relation between the diameter in relation to depth of said cavity being greater than 5 and having a radius being at least 3 times the width of any of said apertures.

22. (original) An absorbent shielding according to claim 20, comprising said cylindrical internal wall and said end wall comprising said first aperture as an integral piece adapted to be cast.

23. (cancelled).

24. (original) An absorbent shielding according to claim 20, comprising a coating with a high absorption coefficient on a cylindrical inside wall of said cavity.

25. (currently amended) An absorbent shielding according to claim 20, comprising a ~~simple~~ wedge geometry of said

inner cylindrical walls to increase the absorption inside said cavity.

26. (currently amended) An absorbent shielding according to claim 20, comprising

[[□]] a Focal Plane Array holding device in the vicinity of said first aperture providing a thermal coupling directly from a Focal Plane Array to said absorbent shielding;

[[□]] pressing means pressing said holding device against said shielding.

--27. (currently amended) A shutter for an IR camera an optical focusing system and a Focal Plane Array as detecting system for said camera, comprising:

activating means for providing a shutter close signal;

shutter closing means for closing the beam path from said object to said focal plane array after receiving said shutter close signal; and

indicating means indicating that at least one detector element in said FPA has a steady state signal after that said shutter close signal has been provided,

said indicating means is adapted to indicating a predetermined histogram design representing said steady state signal from said at least one detector element.

29. (currently amended) An optical focusing system for an IR camera ~~an optical focusing system and~~ including a Focal Plane Array as detecting system for said camera, comprising:

at least one storage means attached to the optical focusing system arranged to hold calibration parameters of the optical focusing system ~~□ specific means associated to said specific focusing system~~;

[[●]] downloading means to download a signal ~~having relation to said specific means~~ based on the calibration parameters; and

[[●]] adjustment means to adjust said infrared camera making use of said downloaded signal ~~having relation to said specific focusing system~~;

wherein the optical focusing system is constructed and arranged to be removable.

28. (original) A shutter according to claim 27, wherein said indicating means is adapted to indicating a predetermined histogram design representing said steady state signal from said at least one detector element.

29. (currently amended) An optical focusing system for an IR camera an optical focusing system and a Focal Plane Array

as detecting system for said camera, comprising:

[[□]] specific means associated to said specific focusing system;

[[•]] downloading means to download a signal having relation to said specific means; and

[[•]] adjustment means to adjust said infrared camera making use of said downloaded signal having relation to said specific focusing system.

30. (currently amended) An optical focusing system according to claim 29, wherein

□ ~~each~~ the optical focusing system comprises a plurality of optical components, ~~such as~~ each of ~~lens and filter, in~~ said optical components comprising a respective one of the storage ~~focusing system is provided with specific~~ means ~~giving information of its features~~;

[[□]] said downloading means being adapted to download ~~a~~ said signal from each of said storage ~~specific~~ means and to transfer it to ~~said~~ a processing device;

[[□]] said processing device is adapted to adjust signals from detector elements in said Focal Plane Array in relation to said downloaded signals.

31. (currently amended) An optical focusing system

according to claim ~~29~~ 30, wherein

[[•]] said optical component is an exchangeable kind of component provided with a code,

[[•]] code reading means is provided for reading said code and adjusting calibration of said IR camera by making use of said code.

32. (currently amended) An optical focusing system according to claim 29, wherein said ~~information regarding said optics is such that it could be transformed into start information for deriving~~ calibration parameters relate to at least one of the following features:

[[•]] non-uniformity corrections;

[[•]] transmission parameters;

~~• vinjetting~~ vignetting parameters;

[[•]] compensation matrixes;

[[•]] special characteristics;

filter part number;

filter serial number;

[[•]] lens~~/filter~~ part number; and

[[•]] lens~~/filter~~ serial number

~~• a combination of at least two of the features above~~.

33. (currently amended) An optical focusing system according to claim 29, ~~wherein~~ further comprising:

storing means for storing ~~said~~ computed information based on said downloaded signal having relation to said optics; and

restoring means for restoring said stored computed information when said component is inserted again.

34. (currently amended) An optical focusing system according to claim 29, further comprising temperature sensor means providing calibration parameters for compensating optical features~~, such as focus, transmission, distance calculations~~.

35. (currently amended) A method to build ~~an~~ a modular IR camera comprising the steps of:

~~a modular building by~~

a. providing a camera housing having an IR Focal Plane Array comprising a number of detector elements as sensor means, said camera housing having a signal processing system connected to said Focal Plane Array;

b. connecting an absorbent~~/~~ and emitting shielding device removably to said camera housing; ~~and~~

c. mounting ~~an~~ a removable optical focusing system focusing an object onto said Focal Plane Array ~~removably~~ to the combined camera housing and shielding device, said optical

focusing system comprising at least one storage element containing calibration information about at least one optical component of the focusing system;

d. downloading a signal based on the stored calibration information; and

e. adjusting said infrared camera making use of said calibration information.

36. (currently amended) A method according to claim 35, further comprising:

[[□]] inserting program means in said processing system adapting signals from said detector elements in said Focal Plane Array to features in surroundings of said FPA;

[[□]] feeding information about amended features in said surroundings to said program means in said signal processing system.

37. (currently amended) A method according to claim 35, further comprising:

[[□]] providing a normally open shutter between said optical focusing system and said Focal Plane Array;

[[□]] providing a shutter close signal;

[[□]] closing the beam path from said object to said focal plane array after receiving said shutter close signal; and

[[□]] indicating that at least one detector element in said FPA has a steady state signal after that said shutter close signal has been provided; and

[[□]] then making a calibration procedure.

38. (original) A method according to claim 37, wherein said indicating is done by studying a histogram and indicating when a predetermined histogram design is provided from said at least one detector element representing said steady state signal.

39. (currently amended) A method according to claim 35, comprising: providing said absorbent and emitting shielding as a cavity having a cylindrical internal wall and having a first aperture at one end wall of said cylindrical internal wall turned to said FPA and a second aperture at another end wall of said cavity for the bean path from said object to said FPA, said cavity having a relation between the diameter in relation to depth of said cavity being greater than 5 and having a radius being at least 3 times the width of any of said apertures.

40. (original) A method according to claim 39, dimensioning said cavity such that all stray light outside the optical path to said FPA has to be reflected at least three times inside said cavity before it can go through said first aperture to reach said FPA.

41. (original) A method according to claim 39, comprising setting said FPA floating inside said camera housing and in thermal mechanical fix contact with said absorbent shielding.

42. (original) A method according to claim 39, wherein casting said cylindrical wall and said end wall comprising said first aperture as an integral piece.

43. (original) A method according to claim 39, providing said shutter in said other end wall having said second aperture in said shielding.

44. (original) A method according to claim 39, providing a coating with a high absorption coefficient on a cylindrical inside wall of said cavity.

45. (original) A method according to claim 39, providing a wedge geometry of said inner cylindrical walls to increase the absorption inside said cavity.

46. (cancelled).

47. (currently amended) A method according to claim 35, ~~wherein~~ further comprising:

[[□]] providing each said optical component~~, such as each lens and filter,~~ in said optical focusing system with ~~specific means giving information of its features~~ one said storage element;

[[□]] downloading a signal from each said ~~specific means~~ storage element and ~~to~~ transferring it to said processing device;

[[□]] adjusting signals from detector elements in said Focal Plane Array in relation to said downloaded signals.

48. (currently amended) A method according to claim 35, ~~wherein~~ further comprising:

[[•]] providing a code on said optical component being an exchangeable kind of component;

[[•]] reading said code; and

[[•]] adjusting calibration of said IR camera by making use of said code.

49. (currently amended) A method according to claim 35, wherein transforming said information regarding said optics into start information for deriving at least one of the following features:

[[•]] non-uniformity corrections;

[[•]] transmission parameters;

• ~~vinjetting~~ vignetting parameters;

[[•]] compensation matrixes;

[[•]] special characteristics;

~~filter part number;~~

~~filter serial number;~~

[[•]] lens~~/filter~~ part number; and

[[•]] lens~~/filter~~ serial number

• ~~a combination of at least two of the features above~~.

50. (original) A method according to claim 35, comprising: storing said computed information based on said downloaded signal having relation to said optics; and restoring said stored information when said component is inserted again.

51. (original) A method according to claim 35, comprising: sensing temperature in said IR camera; and providing calibration parameters for compensating optical features, such as focus, transmission, distance calculations.

52. (currently amended) A method to detect when an optical component in a beam path from an object to a focal plane array (FPA) in an infrared camera influences said adjustment of

said infrared camera, and to adjust said infrared camera, ~~characterized by~~ comprising the steps of:

providing said optical component with ~~specific~~ storage means associated to said ~~special kind of component~~ optical component arranged to hold calibration parameters related to the optical component,

downloading a signal having relation to said ~~specific means~~ calibration parameters,

adjusting said infrared camera making use of said signal ~~having relation to said specific means~~.

53. (currently amended) A method according to claim 52, ~~characterized by~~ further comprising:

~~• examine if~~ determining whether said optical component is an exchangeable kind of component,

~~• examine if~~ determining whether said specific means is a code provided on said component,

~~• examine if~~ determining whether said code is stored in said infrared camera, and

• adjusting a calibration of said infrared camera by making use of said code.

54. (currently amended) A method according to claim ~~52~~ 53, ~~characterized by providing~~ wherein said code ~~such that it~~

~~could be transformed into start information~~ provides data for deriving at least one of the following features:

[[•]] non-uniformity corrections;

[[•]] transmission parameters;

~~• vinjetting~~ vignetting parameters;

[[•]] compensation matrixes;

[[•]] special characteristics;

filter part number;

filter serial number;

[[•]] lens~~/filter~~ part number; and

[[•]] lens~~/filter~~ serial number

~~a combination of at least two of the features above~~.

55. (currently amended) A method according to claim ~~52~~ 53, ~~characterized by~~ comprising storing at least one of said downloaded signal having relation to said ~~specific means~~ calibration paremeters and~~/or~~ features computed by means of said code for said component to be restored when said component is inserted again.

56. (currently amended) A method according to claim 55, characterized by optical or ~~magnetical~~ magentic reading of said code.

57. (currently amended) A method according to claim 52, characterized by temperature sensing for providing calibration parameters for compensating optical features~~, such as focus, transmission, distance calculations~~.

58. (currently amended) A method for detecting when a shutter is provided in the beam path from an object to a focal plane array in an IR camera, characterized by

- detecting activation of a shutter close signal; and
- indicating when said FPA has a predetermined and/or steady state after said activation of said shutter close signal, by studying a histogram and indicating when a predetermined historgram design is provided from said at least one detector element representing said steady state signal.--

59. (cancelled).

60. (currently amended) A method for providing shielding in an infrared camera having a focal plane array (FPA) as a recording means for an infrared beam from an object to be monitored, comprising:

providing a cavity having an approximately cylindrical internal wall and having a first aperture at one end wall of said cavity turned to said FPA and a second aperture at another end

wall of said cavity for the beam path from said object to said FPA, said cavity having a ratio of depth to radius being at least 1 to 5 and a radius being at least 3 times the width of any of said apertures.

61. (original) A method according to claim 60, dimensioning said cavity such that all stray light outside said optical path to said FPA has to be reflected at least three times inside said cavity before it can go through said first aperture to reach said FPA.

62. (original) A method according to claim 60, providing an FPA having a small size.

63. (original) A method according to claim 60, providing a coating with a high absorption coefficient on a cylindrical inside wall of said cavity.

64. (original) A method according to claim 60, providing a wedge geometry of said inner cylindrical walls to increase said absorption inside said cavity.

65. (original) A method according to claim 60, providing said FPA in thermal mechanical fix contact with said end wall comprising said first aperture.